

# Learning Disabilities

## A Catalog of Information Products



U.S. DEPARTMENT OF COMMERCE  
Technology Administration  
National Technical Information Service  
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## About this Catalog

The Learning Disabilities catalog provides a quick overview of the latest studies, reports, and journal articles that are available from NTIS. Products listed in this catalog cover many learning disability topics that have been released by U.S. government agencies such as the U.S. Department of Education, the National Institute of Child Health and Human Development, the National Science Foundation, and the National Center for Health Statistics.

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## Agriculture and Food

### Food Technology

#### Food Allergy and Hypersensitivity (Latest Citations from the Food Science and Technology Abstracts Data Base)

National Technical Information Service, Springfield, VA; New England Research Application Center, Storrs, CT.

Jones, Thomas H.

Feb 94 250p

Order number PB94-865839CDN,  
Price code PC N01/MF N01

Sponsored in part by National Technical Information Service, Springfield, VA.

The cited articles in this comprehensive bibliography cover the basic knowledge and new developments in food allergy and hypersensitivity. Included are studies of allergy among food workers, and methods for handling this problem. The allergenic potential of foods, food additives, and food packaging materials and finishes, the mechanisms involved, clinical manifestations and diagnosis, and treatments for food allergies and related hypersensitivities, are discussed. Specific articles on dyslexia, or learning disability, migraine, hyperactivity and inattentivity in children, stomach cramps, rashes and other frequently cited ailments sometimes related to diet, are also included. Sources of potentially allergy producing components in human diets arising from animal feed or fertilizers are cited.

In addition to a literature review emphasizing definitions, statistics, and legislation concerning learning disabilities, this paper presents the results of a 1987 survey of academic libraries regarding their services for postsecondary learning disabled students. Responses (n=525) to the questionnaire indicated that, as a group, academic librarians lack sufficient knowledge of learning disabilities and generally do not provide services specifically designed to meet the needs of learning disabled college students. Recommendations for improving services for this population are offered. Analyses of the survey data for specific questions are provided in seven appendices. (16 references) (Author/BBM).

#### Adult Tests - A Selected List of Assessment Instruments Appropriate for Adults with Disabilities, Fiscal Year 1985

Department of Education, Washington, DC.  
Office of Vocational and Adult Education.

Langner, W. L.

May 85 12p

Order number SHR-0013975CDN,  
Price code PC A03/MF A01

The document lists assessment instruments that are appropriate for adults and that have been used specifically for program planning with the hearing impaired, the learning disabled, the mentally retarded, and the visually impaired. Two tests suitable for the hearing impaired adult are described: the Stanford Achievement Test and the Wepman Auditory Test. Tests appropriate for learning disabled adults include the Basic Inventory of Academic and Survival Skills (BIASS) Test; The London Procedure: Screening, Diagnostic, and Teaching Guide for Adult Learning Problems; Keymath; and the Jordan Oral Screening Tests. Three tests appropriate for moderately mentally retarded adults are described: the AAMD Adaptive Behavior Scale, the Brigance Diagnostic Inventory of Essential Skills, and the California Adult Student Assessment system. For severely retarded adults, appropriate tests include the AAMD Adaptive Behavior Scale and the Pomona Evaluation Profile. Two tests for screening visually impaired adults, the Home Eye Test for Adults and the Keystone Telebinocular Screening Program, are described. Also

discussed are the Jordan Written Screening Test for Specific Reading Disability and the Jordan Vision Screening Test for Binocular Control for Sustained Reading and Writing. A mailing address and telephone number are included for each test publisher.

#### Affective Television in the Special Education Environment - The Use of 'Inside/Out' with Learning Disabled and Emotionally Handicapped Boys. Research Report 66

Agency for Instructional Television, Bloomington, IN.

Elias, M.

Oct 78 33p

Order number ED-249 956CDN,  
Not available NTIS

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), Arlington, VA 22210.

A model affective education program was conducted for 109 boys, aged 7 to 15, with special education needs and social and emotional difficulties. Ten programs from the 'Inside/Out' series were used at twice a week showings for five weeks and discussions followed each presentation. The program was designed to increase children's ability to cope with problematic situations, develop greater confidence in their social abilities, and increase their willingness to devote their energies to academic learning. Evaluation consisted of a pre-test, post-test, and a follow-up. Data were collected from the children and their peers, teachers, classroom aides, and child care counselors. Considerable evidence was found for the effectiveness and usefulness of the project as the experimental children showed improved self-confidence, greater faith in their ability to influence the outcome of situations in which they were involved, and better emotional control. Their peers rated them as more popular and more sociable. After two months, gains in emotional control, social approach behavior, and personality functioning had been maintained, and benefits had spread to both in-school learning behavior and out-of-school social behavior.

## Behavior and Society

### Education, Law, and Humanities

#### Academic Library Services and the Learning Disabled College Student

Gustafson, J.; Langan, K.

1990 34p

Order number ED-333 899CDN,  
Not available NTIS

Paper presented at a continuing education workshop, 'Library Services and the Learning Disabled' (Buffalo, NY, June 8, 1990).

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

### **Application of Microcomputer-Based Laboratory Programming to On-Site Educational Research - A Proposal**

Majsterek, D.

23 Oct 85 17p

*Order number ED-274 341CDN,  
Not available NTIS*

Paper presented at the Annual Conference of the Rocky Mountain Educational Research Association (Las Cruces, NM, October 23, 1985).

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

The proposal put forward in this presentation centers on the use of the microcomputer for the generation of educational research, both as a powerful tool for information collection and as a means for analyzing the generated data. The microcomputer-based laboratory (MBL) principles described in this paper may be used in rural classroom settings as well as in a broader range of research, e.g., city- or state-wide studies. This presentation examines the MBL programming component and its application to a specific research question in special education: the identification of a processing disorder subtype of the learning disabled (LD) student population. The suggestions contained herein are intended for potential researchers who are familiar with microcomputers. Among the advantages of subtype studies are that: (1) they are sensitive to the possibility that typical learners demonstrate cognitive processing strategies similar to those identified in non-typical learners; (2) they are less prone to errors arising from conclusions based on coincidental occurrences; and (3) they are less prone to statistical averaging difficulties encountered when comparing LD students with non-LD students. The increased availability of students resulting from moving the studies to the schools is an added advantage. Findings based on more broad-based locally-defined subgroups of LD students have promise for enhancing the understanding of the LD handicap and, as such, may lead to more effective individual educational plans. State

offices of public instruction would particularly benefit from such research in justifying current LD programs to budget conscious legislatures. An Applesoft BASIC program designed to evaluate the dependent variables of performance and reaction time is included as an illustrative analysis of an MBL program. Eight references are listed. (DJR).

### **Computer Applications in Education - The Best of ERIC 1990**

*Office of Educational Research and Improvement (ED), Washington, DC; ERIC Clearinghouse on Information Resources, Syracuse, NY.*

McLaughlin, P.

Feb 92 116p

*Order number ED-345 715CDN,  
Not available NTIS*

For the 1989 report,

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This collection provides an overview of literature entered into the ERIC database in 1990 on computer applications in elementary and secondary education, adult education, and special education. The first of four sections contains a list of overview documents on computer assisted instruction. Focusing on special applications, the second section lists documents on artificial intelligence, cognitive processes and thinking skills, computer literacy, computer networks (including distance education and telecommunications), computer equity, counseling and guidance, interactive video, keyboarding, the Logo programming language, management/administration, research, software, and tests and testing. References to documents for various subject area applications are listed in the third section under the headings of Business, English as a Second Language and Foreign Languages, Fine Arts, Language Arts, Mathematics, Physical Education, Programming, Reading, Science, Social Studies, Vocational Education, and Writing. The fourth section contains references to documents on special populations grouped into the following categories: adult education, disabled learners and learning disabilities, disadvantaged, gifted, and preschool

education. Each entry includes the title and author of the document, information on price and availability, the publication type, major ERIC descriptors, and an abstract. An alphabetical index of authors and information on ordering ERIC documents are included. (DB).

### **Computers in Post-Secondary Developmental Education and Learning Assistance**

Christ, F. L.; McLaughlin, R. C.

1987 10p

*Order number ED-309 743CDN,  
Not available NTIS*

Paper presented at the Annual Institute for Learning Assistance Professionals (4th, 1987).

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This update on computer technology—as it affects learning assistance directors and developmental education personnel—begins by reporting on new developments and changes that have taken place during the past two years in five areas: (1) hardware (microcomputer systems, low cost PC clones, combination Apple/PC machines, lab computer controllers for instructional management); (2) peripherals (large screen projection, high speed printers, ribbon re-inkers, oversize monitors, printer buffers, modems, mouse alternatives, scanners, mark sensing, hard disk drives, computer equipment security, screen readers for the blind, eye-movement recording systems, and learning center accountability and bar code readers); (3) software (administrative, desktop publishing, multilingual, utilities, test generators, DOS tutorial, public domain, computer viruses and vaccines, printing efficiency software, grammar assistance, software source catalogs, special education and rehabilitation software, educational discounts, higher education 1987 software awards, academic courseware exchange, and a software database); (4) books and periodicals; and (5) professional associations and conferences. Current trends are then discussed, including software rental, software compatibility, computer swap meets, electronic universities, increased computer capacity,

and expert systems; names and addresses of selected vendors are included. The paper concludes by describing five challenges presented to post-secondary educators by these innovations: (1) mastering computer technology; (2) networking for professional growth; (3) encouraging the development of imaginative, well- designed and useful educational software; (4) improving software purchasing decisions; and (5) collecting and organizing information for decision- making. (GL).

**Denuded Data Grounded Theory Using the NUDIST Computer Analysis Program - In Researching the Challenge to Teacher Self-Efficacy Posed by Students with Learning Disabilities in Australian Education**

Burroughs-Lange, S. G.; Lange, J.

1993 22p

*Order number ED-364 193CDN, Not available NTIS*

Paper presented at the Annual Meeting of the American Educational Research Association (Atlanta, GA, April 12-16, 1993).

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This paper evaluates the effects of using the NUDIST (Non-numerical, Unstructured Data Indexing, Searching and Theorising) computer program to organize coded, qualitative data. The use of the software is discussed within the context of the study for which it was used: an Australian study that aimed to develop a theoretical understanding of the challenge that students who fail to learn pose for neophyte teachers' images of effectiveness. The potential for interacting with the data during the process of creating and collapsing categories into more overarching theoretical constructs is considered as it relates to NUDIST's procedural and structural influence on eventual analytical outcomes. Topics covered in the paper include: (1) the aims and processes of qualitative analysis; (2) the computer as a tool in qualitative analysis; (3) NUDIST in qualitative analysis; and (4) examples of using NUDIST to theorize in the self-image study. A description of NUDIST and a description of the study for which it was used are appended.

(Contains 14 references.) (KRN).

**Determining the Differential Effect on Math Achievement of Levels of Implementation of a Videodisc-Based Program with Regular and Mildly Handicapped Students**

Thorkildsen, R.; Lowry, W. H.

1987 10p

*Order number ED-339 341CDN, Not available NTIS*

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

A study was conducted to determine if different levels of implementation of an interactive videodisc-based instructional program in mathematics differentially affected the academic achievement of regular students and students with disabilities in mainstreamed classrooms. The videodisc program was designed to be controlled by a teacher in group instruction. Thirty-eight students with disabilities who normally receive mathematics instruction in a resource room, received the majority of instruction in a regular classroom. Additional instruction was provided to these students by resource room teachers using the interactive video program. Seventy-one regular education students and 38 resource students received video-based instruction in 9 fifth grade classrooms. Students were classified as high- achievers, low- achievers, and low achievers with special needs (resource students). Students were administered a criterion-referenced pretest and posttest. Data were also collected on the amount of extra help received by the resource students and on level of implementation. Teachers were divided into high, average, and low implementors of the program. The results of a two-way analysis of the covariance showed statistically and educationally significant differences in implementation level and type of student. There was also a statistically significant interaction between implementation level and type of student. This suggests that there is a strong relationship between the level of implementation and student achievement. (9 references) (Author/DB).

**Development of Intelligent Computer-Assisted Instruction Systems to Facilitate Reading Skills of Learning-Disabled Children Master's thesis, Aug 91-Dec 93**

Naval Postgraduate School, Monterey, CA.

Anderson, P. M.

Dec 93 97p

*Order number AD-A276 250/8CDN, Price code PC A05/MF A02*

The purpose of this thesis is to develop a high-level model to create self-adapting software which teaches learning-disabled (LD) children to read. This approach identifies and discusses the fundamental concepts of learning, motivation, learning disabilities, the Theory of Multiple Intelligences, computer games, and intelligent computer-aided learning (ICAL). These concepts are then integrated into the design of a model that manipulates these concepts to teach reading skills. The result of this effort is CAPER (Computer-Assisted Personal Education Resource). It is model of a system that will: (a) identify the individual's dominant learning styles, (b) tailor the instruction and presentation to those styles, and (C) present the lessons in an interactive game-like style will retain the child's interest and enhance the learning process.

**Disabilities, Children, and Libraries - Mainstreaming Services in Public Libraries and School Library Media Centers**

Walling, L. L.; Karrenbrock, M. H.

Feb 93 418p

*Order number ED-368 381CDN, Not available NTIS*

Revised, updated, and expanded version of 'The Disabled Child in the Library' (Libraries Unlimited, 1983).

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

Written for librarians and school library media specialists, this book is designed to foster awareness and encourage confidence in serving the needs of children with disabilities. It provides practical guidelines for recognizing and understanding many disabilities, including vision, hearing, and speech impairments; emotional, behavioral, and

learning disorders; and disabilities affecting mobility and dexterity. Information about the developmental and informational needs of children and corresponding library responses is provided. Insights and solutions that will help librarians create mainstreamed environments for library users are offered. These include guidelines for selecting and adapting library materials and facilities and minimizing the effects of physical, societal, and environmental barriers in libraries. Separate discussions focus on planning, implementing and evaluating services and assistive technologies. Sources of materials, equipment, technology and other sources of information and assistance are provided, along with contact information. A 20-page list of recommended readings arranged by chapter, a checklist of ways to implement services for children with disabilities, and a description of a successful program are appended. (KRN).

### **Educational Toys. (Latest citations from the U.S. Patent Database)**

*National Technical Information Service, Springfield, VA; NERAC, Inc., Tolland, CT.*

Nov 92 152 citations minimum

*Order number PB93-854909CDN, Price code PC N01/MF N01*

Updated with each order. Sponsored in part by National Technical Information Service, Springfield, VA.

The bibliography contains citations of selected patents concerning toys developed for teaching arithmetic, languages, physical concepts, architectural construction, machine manipulations, and social perceptions. Patents are included for toys with educational sets of questions and answers. Educational toys for infants and children with learning disabilities are also considered. (Contains a minimum of 152 citations and includes a subject term index and title list.)

### **Evaluating Children's Learning Disabilities with an Apple II Personal Computer or Tempting Poor Learners with an Apple**

Sisson, L. H.

1983 17p

*Order number ED-237 078CDN, Not available NTIS*

Paper presented at the Annual Meeting of the Western Psychological Association (San Francisco, CA, April 6-10, 1983).

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), Arlington, VA 22210.

This paper describes the use of commercially-available software for the Apple Computer to augment diagnostic evaluations of learning disabled children and to enhance 'learning to learn' strategies at the application/transfer level of learning. A short rationale discusses levels of evaluation and learning, using a model that synthesizes the ideas of Robert Gagne, Benjamin Bloom, Hilda Taba, and J. R. Gifford. Two case studies of children with learning disabilities describe a 7-year-old girl and an 11-year-old boy who were evaluated through computer programs to assess their learning difficulties and who were provided with learning experiences through computer assisted instruction. A listing of 59 educational software programs includes approximate price, producer/distributor with address, grade level(s), and brief comments for each.

### **Florida International University Libraries and the Americans with Disabilities Act 1990 - An Overview with Recommendations for Compliance**

*Florida International Univ., Miami. Libraries.*

Jul 92 32p

*Order number ED-352 037CDN, Not available NTIS*

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This report explores the significance of the Americans with Disabilities Act of 1990 (ADA) for the Florida International University Libraries and describes adaptations that can be made to insure compliance with the law. Following a

discussion of the law and definitions of terms, the paper lists auxiliary aids and services that should be purchased to better serve the needs of disabled persons with visual, hearing, and mobility impairments and combinations of these impairments. The name, price, vendor, and vendor phone number are given for equipment designed to adapt online catalog terminals for people with low vision; people who cannot see or read print; people who are blind and deaf; and people who are unable to use a keyboard. The paper also describes general services that would benefit the libraries' disabled users; furnishings that make materials and services available to those who use wheelchairs; signage systems that meet the needs of persons with visual, hearing, and mobility limitations; interior and exterior architectural access needs; and sensitivity and disability awareness training for library staff personnel. The establishment of a library access and services committee is recommended and a list of committee responsibilities is provided. (Contains 9 references.)

### **Introduction to Computers - Parallel Alternative Strategies for Students. Course No. 0200000**

*Florida Diagnostic and Learning Resources System, West Palm Beach; Palm Beach County Board of Public Instruction, West Palm Beach, FL.*

Chauvenne, S.

1989 499p

*Order number ED-318 454CDN, Not available NTIS*

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

Parallel Alternative Strategies for Students (PASS) is a content-centered package of alternative methods and materials designed to assist secondary teachers to meet the needs of mainstreamed learning-disabled and emotionally-handicapped students of various achievement levels in the basic education content courses. This supplementary text and workbook for an introductory computer course is divided into 14 chapters which address such topics as how computers work, computer hardware, computer software, problem solving with computers, an introduction to BASIC, word processing,

databases and computer communication, spreadsheets and graphics programs, computer crime and abuse, computers and careers, and supercomputers of the future. Each chapter contains a teacher's guide (which includes intended learning outcomes, suggested learning activities, and a list of vocabulary words for each unit) and student materials (including study sheets, textbook work sheets, work sheets, and sample tests). Also included are answer keys for the tests and software worksheets. (GL).

**Junior High Computer Literacy. Curriculum Guide (L'Informatique au Secondaire 7-8-9. Guide Pédagogique)**

Alberta Dept. of Education, Edmonton. Curriculum Branch.

Sep 84 80p

Order number ED-287 476CDN,  
Not available NTIS

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This curriculum guide provides information in both English and French for the teaching of computer literacy in junior high schools in the Canadian province of Alberta. A basic introductory course developed in response to the need to acquaint junior high school students with a general understanding of computers and their use, the program for grades 7, 8, and 9 has been developed in keeping with the elementary computer literacy program introduced in 1983 and the courses offered at the high school level (Computer Literacy 10 and Computer Processing 10-20-30). This guide covers four major areas: (1) The Computer Literacy Program (rationale and philosophy, major goals, core-elective format, program structure, core topics, provisions for differences in student backgrounds, course implementation, hardware and software components, methodology, and learning resources); (2) Program of Studies (junior high school computer literacy); (3) Elective Component (notes concerning the elective and suggested elective topics); and (4) Classroom Instructional Notes (evaluation, provisions for the gifted and talented, and provisions for the handicapped and learning disabled). Two sources of additional information on learning

resources and support materials are appended to the English version of the guide, while appendices to the French version include descriptions of five software programs and four references in French. (RP).

**Learning Disabled Children's Attitudes toward Reading and Libraries**

Richards, V.

Nov 91 72p

Order number ED-352 960CDN,  
Not available NTIS

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

The purpose of this study was to measure how learning disabled (LD) children perceive reading and libraries. No similar studies were found during the literature search undertaken for this project. Twenty-three fourth and fifth grade students identified as learning disabled by their school system were interviewed to collect information on their attitudes toward libraries and reading. The children answered questions about the kinds of library programs they participated in, the kinds of materials checked out, family reading habits, types of reading material they enjoyed, and their perceptions of their own reading abilities. Some questions were presented in a multiple choice format; others were open ended. Data were tabulated according to groups—boys, girls, LD classroom students, and students receiving tutoring. The study found that most of the students had very positive attitudes toward the public library, although only about one third of them said they go to the library on a regular basis. The girls had higher average reading attitude scores and library attitude scores than the boys. The girls were read to more often than the boys and attended more library programs. The children who did not think that they read as well as their peers did not enjoy reading less. Children with higher reading attitude scores were also more likely to have parents who were both frequent readers. Eight data display tables, a sample parent letter and questionnaire, a checklist of learning disability warning signs, and a list of what children like and dislike about the public library are appended. (Contains 33 references.)

**Microelectronics and Special Education. CET/MEP (Council for Educational Technology/ Microelectronics Education Programme) Information Sheet**

Council for Educational Technology, London (England).

Oct 81 13p

Order number ED-279 289CDN,  
Not available NTIS

Best copy available; narrow left-hand margins.

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

Used as an additional aid by the teacher, microelectronics can assist mentally and physically handicapped children to meet educational objectives that have been specifically agreed upon for the individual child. Microelectronics can help deaf children develop speech production, communication skills, and grammar and sentence construction; accommodate blind children with the use of portable reading aids, Braille and audio information centers, and text-processing systems; aid children with learning difficulties to develop thinking skills; and provide physically handicapped children with a means of accessing a variety of computer-assisted instructional (CAI) learning programs. It is difficult, however, to use microcomputers in helping non-communicative children who use Bliss symbols because of the difficulty in obtaining software, the amount of planning time and effort needed to use the software appropriately, and the lack of special technical support. Activities funded by the Microelectronics Education Programme (MEP) in which the Council for Educational Technology (CET) has been involved include: curriculum development for deaf students; training for teachers, other staff, and parents of physically handicapped children; Special Education Microelectronics Resource Centres; consultancy centers on communication aids in education; and research on input/output devices software for the physically handicapped. Further reading resources are listed. (DJR).

### Mini-Curriculum for Robotics Education

Jones, P. K.;

1987 45p

Order number ED-290 448CDN,  
Not available NTIS

Ed.D. Practicum, Nova University.

Available from ERIC Document  
Reproduction Service (Computer  
Microfilm International Corporation),  
3900 Wheeler Ave., Alexandria, VA  
22304-5110.

This practicum report documents the development of a four-lesson multimedia program for robotics instruction for fourth and seventh grade students. The commercial film 'Robot Revolution' and the videocassette tape 'Robotics' were used, along with two author-developed slide/audiotape presentations and 14 overhead transparency foils. Two robots, Hero I and Robie, Sr., and 16 Apple IIe microcomputers with turtle graphics were also used. Developmental testing occurred using a group of 41 students who ranged in grade level from fourth through eighth and in ability from above average to those with specific learning disabilities. A summative evaluation indicates that the program is high in quality, leads to positive learning experiences, and is interesting. A 10-item bibliography is provided and 12 appendices provide additional information on the evaluations, the objectives of the course, and lesson plans.

### Our Future Growth Is Tied to Educational Technology

Senese, D. J.

12 Nov 83 20p

Order number ED-298 881CDN,  
Not available NTIS

Paper presented at the  
Telecommunications Public Forum,  
Marshall, MN, November 12, 1983.

Available from ERIC Document  
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3900 Wheeler Ave., Alexandria, VA  
22304-5110.

The advent of the technological revolution will affect both the world of work and the educative process. Predictions for high technology employment show high levels of growth in the 1980s, and most of these jobs will require specialized training. Dealing with the problem of job training, two possibilities emerge: the Job Training Partnership Act and the Electronic University. The Job Training Partnership Act will focus on assisting people to obtain skills needed for employment, while the Electronic University will offer courses to reach all learners on all levels, including workers who need retraining. In addition, with the renewed interest in improving education, the National Commission on Excellence in Education is recommending the strengthening of graduation requirements in the basics as well as the inclusion of computer science courses. The Office of Educational Research and Improvement (OERI) has taken the initiative in implementing technology in education, and several programs are in place which utilize technology to improve the teaching of writing in grades 3 through 6, and educational television to teach science. Grants have been awarded to 10 National Diffusion Network (NDN) 'Lighthouse Projects' which use computers to enhance programs in occupational education in high technology and in basic skill instruction for compensatory education, as well as for teaching mathematics in grades 9 through 12, comprehensive secondary level reading for grades 7 through 12, and reading, mathematics, writing, and computer science for the learning disabled. (DJR).

### Potential of Captioned Television for Adult Learners. Working Papers of Planning and Development Research. Working Paper 88-3

TVOntario, Toronto.

Mehler, A.

Apr 88 26p

Order number ED-318 446CDN,  
Not available NTIS

Available from ERIC Document  
Reproduction Service (Computer  
Microfilm International Corporation),  
3900 Wheeler Ave., Alexandria, VA  
22304-5110.

With the assistance of the Canadian Captioning Development Agency, TV Ontario has undertaken to determine the efficacy of applying closed-captioned television to the needs of adult learners who are not hearing impaired. In this research study, actual and potential applications of closed-captioned television for hearing audiences in Canada, the United States, the United Kingdom, Europe, and Australia were explored in order to provide a context to guide development in this area. Following a description of captioning technology and a discussion of the current commitment of Canadian broadcasters to captioned television, the report provides a review of experimental research studies that tested the use of closed-captioned television with adult students of English as a Second Language and literacy, as well as with learning disabled adults. The results of these studies are discussed in terms of their implications for the development of captioned television for adult learners in Ontario. The adult learner markets for closed-captioned television in Ontario are described in detail, as are the programs currently available to these learners. Issues are raised concerning the learning contexts that are best suited to learning with closed captions, and suggestions are made as to the types of programs and captioning methods that are most conducive to learning. The paper concludes with recommendations for the next phase of research—to conduct a pilot test of the use of captioned video in various classroom learning contexts and with learners of varying capabilities. (13 references)

# Reflections of a Lifetime Reader

National Library Service for the Blind and Physically Handicapped, Washington, DC.

Jernigan, K.

Jan 91 18p

Order number ED-331 507CDN,  
Not available NTIS

Address delivered to the Conference of Librarians Serving Blind and Physically Handicapped Individuals (Louisville, KY, May 7, 1990).

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This publication recounts the childhood experiences of one boy at the Tennessee School for the Blind and his use of braille and talking book library services. It also describes his frustration at the rationing of braille reading materials at the school, and how his enormous appetite for reading material led him to 'beat' the school's system. It examines how the scarcity of braille and talking books only increased his love of reading. In conclusion, it observes that the blind of the United States have grown strong through the power of collective action while libraries have also grown strong through a network of service and the meeting of a need, and urges the two groups to work together in a growing partnership to strengthen library services for the blind.

# Study of ABE/ESL Instructor Training Approaches. Learning Disabilities - Learner-Centered Approaches (Training Packet for a Three-Session Workshop) Final rept

Pelavin Associates, Inc., Washington, DC.

Osher, D.; Webb, L.; Koehler, S.

Jan 93 290p

Order number PB94-780459CDN,  
Price code PC A13/MF A03

Prepared in cooperation with Adult Learning Resource Center, Des Plaines, IL. Sponsored by Department of Education, Washington, DC. Office of Vocational and Adult Education.

Learning Disabilities: Learner Centered Approaches is one of ten instructional packets developed to train adult education teachers and volunteer instructors. This packet was designed to assist teachers and volunteer instructors in understanding and working with students who have learning disabilities. It examines indicators of learning disability and strategies for teaching learning disabled adults.

# Study of ABE/ESL Instructor Training Approaches. Adult Literacy, Learning Disabilities, and Social Context - Conceptual Foundations for a Learner-Centered Approach. (Training Manual)

Department of Education, Washington, DC. Office of Vocational and Adult Education; Pelavin Associates, Inc., Washington, DC.

Osher, D.; Webb, L.

Feb 94 50p

Order number PB94-780426CDN,  
Price code PC A03/MF A01

Prepared in cooperation with Department of Education, Washington, DC. Office of Vocational and Adult Education.

The purpose of this paper is to broaden our conceptualization of learning disabilities in adults. It serves as a resource for the training packet 'Learning Disabilities: Learner-Centered Approaches'. The paper attempts to expand the capacity of adult educators to work collaboratively with adults who learn differently, and suggest ways for more effectively improving what instructors do in the classrooms and what learners do in and out of the classroom. The paper reviews the concepts of learning disabilities, discusses the logic of a learner centered approach, and explores the components of a new learning disabilities paradigm built upon a reflective and critical approach to addressing the social context and needs of adults with learning disabilities.

# Technology Age Classroom

Cannings, T. R.; Finkel, L.

1993 661p

Order number ED-365 305CDN,  
Not available NTIS

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This collection of 111 readings on educational technology is intended for use in formal teacher training courses or inservice programs for teachers. The articles, most of which focus on computer technology, were originally published in journals in the field of educational technology. The articles are arranged in eight chapters that address: (1) the benefits of using technology in

the classroom; (2) what the research says about the value of technology; (3) technology applications in various subject areas, including language arts, music, art, writing, math, science, social studies, and library skills; (4) issues for the teacher who uses technology, such as using technology for restructuring the curriculum, staff development, and evaluation; (5) classroom management strategies and teaching techniques for the technology age classroom; (6) technology and students with special needs, such as at risk students, students with learning disabilities, and English as a second language students; (7) emerging technologies, such as videodisc, HyperCard, multimedia, CD-ROM, educational television, distance education, and educational television; and (8) visions of future educational environments, including technology and school restructuring. Each group of articles is preceded by a brief introduction that includes questions for discussion and questions from the readings.

# Whole Word, Phrase or Number Reading Patent

Department of the Air Force, Washington, DC.

O'Hair, M. A.

Filed 28 May 86 16p

Order number PAT # 4,764973

Available from U.S. Patent and Trademark Office, Washington, D.C. 20231 (703) 557-4636

This Government-owned invention is available for U.S. licensing and, possibly, for foreign licensing.

An object of this invention is to provide a method of reading text, which locates and recognizes phrases, individual words, or numbers as single units. Another object is to provide a method of recognizing words or numbers like a person with dyslexia, which can be used in medical research to examine the reading disorder of dyslexia. According to the invention, the image of a word is taken and the two-dimensional discrete Fourier transform of the image is computed. The transformed image is filtered to the first three harmonics, with both real and imaginary components. These components then make up a total of 49 unique vectors which defines a 49

orthogonal, hypersphere. The same process is done to the image for the Fourier components, where there is only 25 unique vector components. Similar looking words cluster in the hypersphere and the smaller distance from one point to another defines the probability of incorrectly recognizing a word. A conclusion is that people with dyslexia might use a different process to recognize words; and by using the real and imaginary components, whole word recognition is possible.

**Windows to the World, NECC 1992. Proceedings of the Annual National Educational Computing Conference (13th, Dallas, Texas, June 15-17, 1992)**

*International Society for Technology in Education, Eugene, OR.*

Gayle, S.

Jun 92 327p

*Order number ED-356 754CDN, Not available NTIS*

For the proceedings of NECC 1991,

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

These proceedings address the appropriate uses of technology in education, including papers and summaries of presentations on the following topics: community partnerships; desktop publishing; English as a Second Language/English to Speakers of Other Languages (ESL/ESOL); cognitive issues in multimedia; higher education applications; social studies K-12; distance learning-media centers; business and vocational education; hypermedia and multimedia in education; restructured schools; technology-supported writing; media tools for special needs students; Texas Center for Educational Technology; science/mathematics K-12; telecommunications; tools for special students in regular classrooms; planning and curriculum; computer literacy/science; tools for teachers; classroom activities for students with special needs; at-risk students; restructuring ideas; developing cognitive skills; special needs; international perspectives; teaching with interactive video; technology for students with learning disabilities; language arts;

distance learning; art and music; supercomputing; networking environments; gender equity issues; approaches in problem solving; technology training for special educators; keyboarding- writing in the elementary school; Logo applications; hypermedia; science and multimedia; technology in teacher education; telecommunications in the elementary classroom; staff development; and multi/hypermedia: K-12. In addition, the conference proceedings contain sections on NECC '92 conference committees; society descriptions; poster sessions; and session presiders.

**Write Now for the Apple IIc, IIe, and IIgs**

*Singer Consultants Custom Software, Wantagh, NY.*

Hermann, R.; Singer, V. H.

1989 15p

*Order number ED-311 888CDN, Not available NTIS*

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

Intended for use by teachers, this guide suggests classroom techniques for using 'Write Now,' an Apple II program with music, motion, and pictures, to facilitate the teaching of manuscript handwriting skills to elementary school students. 'Write Now' shows the student how to form curves and lines when writing letters of the alphabet, where the strokes start, the direction of the strokes, and the proper proportion. The program also has enrichment text on the screen that a parent or teacher can read aloud. In addition, all of the letters that the computer writes are large enough for an entire class to see, allowing the teacher to use the software in classroom presentations. Eight clusters of progressive lessons develop all of the upper and lower case letters according to the strokes required to form them. Starting with body geometry, students learn to write by listening to 'key' music, following direction signals, and watching each illustrated letter as it is correctly written on the screen. The student may also choose to go in alphabetical order, starting at any letter, to learn pairs of upper and lower case letters or practice either upper case or lower case with sample words

corresponding to the illustrations. 'Write Now' also allows the student or the teacher to type in original words or groups of letters for the computer to demonstrate on the screen. This program has been used with special education classes, normal kindergarten through second grade classes, and in a literacy program for dyslexic inmates at the Nassau County Correction Center. (GL).

## General

### Concerns and Actions

*Bureau of Developmental Disabilities, Washington, DC; United Cerebral Palsy Association of California, San Mateo.*

Feb 78 97p

*Order number SHR-0006024CDN, Price code PC A05/MF A01*

National Significance Project: Developmentally Disabled Individuals of Normal Intelligence.

Executive Summary available from PROJECT SHARE, P.O. Box 2309, Rockville, Md. 20852 as SHR-0006024/ES.

As part of a DHEW - funded project to provide technical assistance concerning services for the developmentally disabled who have normal intelligence, this monograph describes concerns of consumers about existing services and delivery systems. Comments from consumers which arose in interviews and workshops reflect the widespread feeling that developmentally disabled individuals are victimized by the service system and denigrated by medical and social service professionals. The impact of normalizational and developmental treatment philosophies are discussed, as is the role of new management technologies. An analysis of attitudes toward disabled persons emphasizes that along with the normalization approach, people with disabilities should also be encouraged to associate with one another and choose a lifestyle they feel is appropriate. Suggestions for planning and implementing effective advocacy activities are presented, followed by a discussion of organizational options and planning considerations. Finally, the unique problems of the developmentally disabled who belong to minority groups or live in rural areas are examined. Planning strategies to improve services to minorities include outreach programs,

community meetings to encourage minority involvement in decisionmaking, and recruiting minority service agency personnel. A regional model to deliver services to rural residents through satellite facilities is outlined, and primary needs of disabled children and adults are identified. An annotated bibliography on advocacy is provided, as are special bibliographies on minorities and rural areas.

## Psychology

### Development of a Knowledge-Based System Supporting the Diagnosis of Reading and Spelling Problems

*Katholieke Univ. Nijmegen (Netherlands). Nijmeegs Inst. voor Cognitie- Onderzoek en Informatie-Technologie.*

van Aarle, E. J. M.; van den Bercken, J. H. L.  
1992 24p

*Order number PB92-187434CDN,  
Price code PC A03/MF A01*

The paper argues that the quality of decision making in psychoeducational practice is likely to profit considerably from directives derived from a so-called normative diagnostic-prognostic framework, and that a computerized decision-support system is a promising tool for facilitating the actual use of such directives. Accordingly the design and function of a knowledge-based system is described, that is intended to support the initial steps of decision making in diagnosing reading and spelling problems: (1) specifying the child's task performance in concrete behavioral terms, (2) identifying behavioral syndromes in these learning behaviors, and (3) generating candidate explanations, or diagnostic hypotheses, for these behaviors and syndromes. The systematic and formal approach to the description of learning behavior problems required for accomplishing these steps are provided by the facet-definition approach. It presents a mapping sentence that serves to define reading and spelling problems and that at the same time is used as a vehicle for the communication between user and system. A prototypical implementation of the system is described, in order to show the latter function of the facet definition in the user interface of the system. Finally, some problems in constructing the required knowledge-bases are discussed.

### Developmental Dysfunction in School Age Very Low Birthweight Children Final rept. 1 Mar 86-28 Feb 89

*Alabama Univ. in Birmingham. Dept. of Pediatrics.*

Nelson, K. G.

Dec 91 49p

*Order number PB92-135565CDN,  
Price code PC A03/MF A01*

Sponsored by Bureau of Health Care Delivery and Assistance, Rockville, MD. Maternal and Child Health and Crippled Children's Services.

As survival of infants with very low birthweight (equal or less than 1000 grams) improves, questions remain about the quality of life for these children. The study examines cognitive, academic, behavioral, motor, social, language, and perceptual functioning of VLBW survivors with no known handicapping conditions and compares their performance with that of demographically similar Non-VLBW children. Results of previous testing in infancy and preschool are analyzed to determine if those early results and any demographic or medical factors can predict those children most likely to have academic success or failure.

### Diagnosis of Learning Problems and the Normative Diagnostic-Prognostic Framework

*Katholieke Univ. Nijmegen (Netherlands). Nijmeegs Inst. voor Cognitie- Onderzoek en Informatie-Technologie.*

van Aarle, E. J. M.

1992 25p

*Order number PB92-187426CDN,  
Price code PC A03/MF A01*

Research findings concerning current psychoeducational diagnostic practice show this practice to be inadequate from the viewpoint of diagnostic decision making. The article is an attempt to account for this low quality and to provide suggestions for improvement. First, the theoretical approach for classification of learning disability is characterized. Subsequently, the 'normative diagnostic-prognostic framework for clinical diagnostic decision making' is described and applied to the learning disability approach. Next, suggestions for improvement of psychoeducational diagnostics, based on the normative framework, are formulated. Expert systems recently developed for psychoeducational diagnostics are evaluated with respect to these suggestions. Finally, a general outline is provided of a knowledge-based decision support system.

### Effects of Organizational Cues on Learners' Processing of Instructional Prose

Smith, P. L.

Jan 86 21p

*Order number ED-267 792CDN,  
Not available NTIS*

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

Two studies investigated the differential effects of organizational cuing and strategy training on learning disabled (LD) adolescents, a group which, it has been suggested, is particularly insensitive to the effects of organizational cues. Participants for the first study included 37 LD and 50 nonhandicapped high school students who were randomly assigned to treatment conditions such that half of each group read a passage with a comparison-contrast top-level structure and half read a passage with a description top-level structure. Data were collected one week later via a pretest, posttest, and delayed recall task. Subjects in the second study consisted of 73 LD high school students who were randomly assigned to one of two treatment groups. One group received instruction in a reading strategy emphasizing the recognition and use of authors' organizational structure while encoding and retrieving instructional prose; the second group received placebo instruction on generic problem solving. A posttest and a delayed posttest generated comparison data. Results of the first study indicated that, as anticipated, LD students were not as sensitive as their nonhandicapped peers to the organization of instructional prose. The results of the second study indicated that training in a text structure did significantly improve both the students' recognition of these structures and their recall of instructional content, and that this effect remained relatively stable over at least a week. Implications for designers of instructional print material are discussed, and plans for future research in this area are described. A list of references and eight data tables are provided. (JB).

### **Halstead-Reitan Neuropsychological Battery and the Luria-Nebraska Neuropsychological Battery When to Use Which**

Madigan Army Medical Center, Tacoma, WA.

Cripe, L. I.

Dec 83 6p

Order number AD-P003 978/4CDN,  
Price code PC A02/MF A01

This article is from 'Proceedings of the AMEDD Psychology Symposium: Multiple Functions and Challenges Held at Augusta, Georgia on 15-19 November 1982,' AD-A145 855, p227-232.

There are many assessment procedures and strategies in neuropsychology for determining the status of higher cortical functions (Lezak, 1983). Of these many approaches, the Halstead-Reitan Battery and the more recent Luria-Nebraska Battery (LNB) are among the most frequently used by clinicians. These two approaches are somewhat different in their origins, underlying theories, and administration. Both have demonstrated an ability to discriminate between groups with and without brain dysfunction (Golden, 1981). The HRB has been in clinical operation for many years, allowing numerous studies to be conducted with persons of varying neuropathologies (Reitan and Davison, 1974). The HRB has proven to discriminate the gamut of neuro-behavioral dysfunctions to include the more subtle disorders (e.g. seizure disorders, mild closed head injuries, learning disabilities, transient ischemic attacks, etc.). The LNB has not been available long enough to establish its ability to discriminate these more subtle disorders, but there is some evidence to indicate that the potential exists.

### **Library Research Manual for College of Wooster Students with a Specific Learning Disability**

Wooster Coll., OH. Andrews Library.

Gustafson, J. C.

Aug 87 100p

Order number ED-302 236CDN,  
Not available NTIS

For a related document,

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This introduction to the library system at the College of Wooster in Ohio provides pertinent advice and information that is designed to enable the student with a specific learning disability to become an effective library user. Following the introductory chapter, which includes descriptions of the audience for whom the manual is written and how it is to be used, the following topics are covered: (1) library environment strategies for specific personality preferences; (2) learning locations in the library; (3) asking for assistance; (4) finding information and taking notes; (5) understanding call number symbols and finding sources; (6) developing an efficient library search strategy; and (7) allowing enough time for library research. Four appendixes include worksheets for students; a discussion of the characteristics of persons with specific learning disabilities; a check list for determining the preferred learning styles of individuals; and a bibliography of recommended readings and other related research sources. (CGD).

### **Neurobehavioral Evaluation System (NES) and School Performance Journal article**

North Carolina Univ. at Chapel Hill. Dept. of Psychology; Health Effects Research Lab., Research Triangle Park, NC. Human Studies Div.

Arcia, E.; Ornstein, P. A.; Otto, D. A.

c1991 11p

Order number PB92-124585CDN,  
Price code PC A03/MF A01

Pub. in Jnl. of School Psychology, v29 n4 p337-352, 29 Oct 91. Prepared in cooperation with North Carolina Univ. at Chapel Hill. Dept. of Psychology.

The aims of the study were to explore the validity of a set of computerized tests, and to explore the validity of reaction time variability as an index of sustained attention. In Phase I, 105 7- to 10- year-old children were presented with five tests from the Neurobehavioral Evaluation System (NES). The children were able to complete four of the tests: the Continuous Performance, Simple Reaction Time, Symbol-Digit Substitution, and Digit Span tests. In Phase II, a follow-up of 88 children, performance on these tests was significantly associated with teacher rating of attention, and with standardized academic achievement measures. Moreover, variability on the

Simple Reaction Time, and performance on the Digit Span and Symbol-Digit tests, significantly predicted reading achievement. Similarly, performance on the Digit Span and Symbol-Digit tests significantly predicted mathematics achievement. In addition, variability on the Simple Reaction Time and Digit Span test performance were significant predictors of reading achievement, above and beyond the prediction provided by teacher ratings. (Copyright (c) 1991 The Journal of School Psychology, Inc.)

### **Relationship of Late Positive ERPs (Event-Related Potentials), Age, Intelligence and Lead Absorption in Socioeconomically Disadvantaged Children**

Northrop Services, Inc., Research Triangle Park, NC. \*North Carolina Univ. at Chapel Hill. Dept. of Psychology. Cincinnati Univ., OH; Health Effects Research Lab., Research Triangle Park, NC.

Otto, D.; Baumann, S.; Robinson, G.; Schroeder, S.; Barton, C.

Jun 87 17p

Order number PB87-202909CDN,  
Price code PC A02/MF A01

Prepared in cooperation with Northrop Services, Inc., Research Triangle Park, NC., North Carolina Univ. at Chapel Hill. Dept. of Psychology, and Cincinnati Univ., OH.

Children from socioeconomically disadvantaged families are at risk for malnutrition, learning disabilities, and many other problems associated with poverty. Increasing application of event-related potentials (ERP) methods has been made in studies of aberrant development, although little systematic effort has been devoted to assess the relationship of socioeconomic factors and ERP measures. In the present study, late positive ERPs, age, intelligence and other demographic variables were assessed in a group of 49 disadvantaged children aged six to twelve years. The Stanford-Binet full-scale was used to index child IQ and the Ammons Quick Test was used for maternal IQ. Quality of the home caregiving environment was evaluated during a home visit using the Caldwell Home inventory. Socioeconomic status (SES) was measured with the Hollingshead two-factor index. ERPs were recorded at Fz, Cz and Pz during an auditory signal detection task. The amplitude and

latency of a late positive component (LPC) peaking 300-600 msec after stimulus onset were measured. The results indicated marked changes in LPC latency during childhood, but only isolated relationships among LPC measures, child IQ and other demographic variables. Whether or not ERPs provide 'culture free' measures of cognitive development is a question that requires further study. LPC amplitude also varied with increasing blood lead levels, observed five years earlier, suggesting a possible association of attention-deficit disorder and lead absorption in early childhood.

## **Social Concerns**

### **Indian Adolescent Mental Health Special rept**

*Office of Technology Assessment, Washington, DC.*

Herdman, R. C.; Behney, C. J.

Jan 90 93p

*Order number PB90-191164CDN, Price code PC A05/MF A01*

Also available from Supt. of Docs.

Library of Congress catalog card no. 89- 600775.

The Senate Select Committee on Indian Affairs asked the Office of Technology Assessment (OTA) to evaluate the mental health needs of American Indian and Alaska Native adolescents. Adolescents are among the most vulnerable of American Indians and Alaska Natives. To the extent they were born with fetal alcohol syndrome, are abused or neglected, live in distressed families and communities, or exhibit mental health problems such as depression, anxiety, developmental disorders, learning disabilities, substance abuse, conduct disorders, and suicidal behavior, Indian adolescents are both distressed themselves and affect the collective future of Indians. The Special Report responds to the Committee's request for information on these problems and on the services available to respond to Indian adolescents' mental health needs.

### **Learning Disabled in Employment and Training Programs**

*Urban Inst., Washington, DC.*

Nightingale, D.; Yudd, R.; Anderson, S.; Barnow, B.

1991 108p

*Order number PB92-163781CDN, Price code PC A06/MF A02*

Also pub. as Employment and Training Administration, Washington, DC. Office of Strategic Planning and Policy Development rept. no. RESEARCH AND EVALUATION SER-91-E. Sponsored by Employment and Training Administration, Washington, DC. Office of Strategic Planning and Policy Development.

Improving the quality job and training services provided to persons who are learning disabled is the focus of the report which examines the differences between functional illiteracy and learning disabilities, discusses the various tools that can be used to assess learning disabilities, and reviews state-of-the-art methods of providing basic and occupational skill instruction to learning disabled students. It looks at testing and assessment tools, ranging from informal and quick checklists administered by lay persons to costly comprehensive test batteries requiring trained professionals. In the section on instructional and training strategies, the report examines basic skills remediation and provides training guidelines.

### **Respite and Crisis Care Human services bibliography series**

*PROJECT SHARE (HHS), Rockville, MD.*

Aug 81 36p

*Order number PB82-105636CDN, Price code PC A03/MF A01*

Unless one has experienced the situation, it is difficult to imagine the strain that caring for a disabled person at home places on a family. Because of what can be a need for constant care, even arranging a trip to the neighborhood grocery store becomes a major tactical exercise. This Project SHARE bibliography addresses the problems such families face while caring for their ill, elderly, emotionally disturbed, developmentally disabled, or physically handicapped members. All such families need short-term relief from these responsibilities and coping skills to discharge their duties

more effectively. Presented are abstracts on a variety of topics, ranging from descriptions of programs designed to help caregivers deal with the family pressures inherent in keeping a disabled member at home, to reports on several respite care operations, to a first-person account by a nurse who provides respite care in her home. Among the many models of respite care included are in-home homemaker-home health aides, sitter services, short-term foster care, and respite care cooperatives. The family facing a crisis bears a different but perhaps equally heavy burden. A child runs away. A family member becomes emotionally ill and must be hospitalized. A child is diagnosed as retarded. An aged parent must be placed in a nursing home. During such times, crisis intervention and counseling can make all the difference in the quality of the family's functioning. This bibliography covers these and other problems and offers suggestions on how to help families get through them with the least disruption. This Project SHARE bibliography provides a sample of the existing literature on respite and crisis care. It is not a complete listing of all documentation available either through Project SHARE or other sources.

### **Respite and Crisis Care Bibliography series**

*PROJECT SHARE (HHS), Rockville, MD.*

Aug 81 36p

*Order number PB82-173550CDN, Price code PC A03/MF A01*

The bibliography addresses the problems faced by families who care for ill, elderly, emotionally disturbed, developmentally disabled, or physically handicapped members at home and their need for respite care. The bibliography addresses a variety of topics, ranging from programs' descriptions to help caregivers keeping a disabled member at home, to reports on several respite care operations, to a first-person account by a nurse who provides respite care in her home. Models of respite care are presented, including in-home home health aides, sitter services, short-term foster care, and respite care cooperatives. In addition, the bibliography covers crisis intervention. A total of 46 annotated references to monographs and articles published in the 1970's are provided.

### **Tactile Perception in Dyslexic Children**

*National Science Foundation, Washington, DC.  
Office of Planning and Resources Management;  
Smith-Kettelwell Inst. of Visual Sciences, San  
Francisco, CA.*

Schevill, Helen S.

1973 69p

*Order number PB81-178139CDN,  
Price code PC A04/MF A01*

A new mode of perceptual recognition and decoding for reading-retarded and normal children is assessed. Specifically, the skin of the abdomen just above the waistline, is investigated as a possible sensory channel for linear and letter discrimination and decoding. Preliminary studies in tactile discrimination were directed toward certain variables, such as speed of linear movement, length of lines, location of stimuli on the body, timing of successive letters, and complexity of pattern construction. Objectives of this research were to find absolute differences among and within populations of children at various levels of reading. These differences could be used diagnostically to provide a basis for theoretical formulation and to serve as a baseline for the development of a controlled letter decoding program.

### **Technology and Learning Disabilities**

*Wright Inst., Berkeley, CA. California Univ.,  
Berkeley; Office of Technology Assessment,  
Washington, DC.*

Dec 83 69p

*Order number PB84-184043CDN,  
Price code PC A04/MF A01*

Library of Congress catalog card no. 83-600546. Prepared in cooperation with Wright Inst., Berkeley, CA. and California Univ., Berkeley.

A learning disability is seen as the outcome of a network of forces that include neuropsychological, emotional, familial, organizational, political, social, historical and technological cases. Options for research and development are based on this integrative view. In this case study, both 'hard' and 'soft' technologies relevant to the learning disabled are discussed. 'Hard' technology refers to concrete discoveries and inventions such as facts about the brain and microcomputers. 'Hard' technology is the 'what'. 'Soft' technology refers to how the technology

is used and who uses it. The complex of legislation, private and public organizations, programs, theories and research are all 'soft' technologies. These 'soft' inventions provide the social context for 'hard' technologies. This case study argues that unless this social context is addressed, the promise that advanced 'hard' technology holds for learning-handicapped people might be seriously compromised.

## Communication

### **Verbal**

#### **Status Report on Speech Research, January-June 1989**

*Haskins Labs., Inc., New Haven, CT.*

Studdert-Kennedy, M.; Manning, Y.

1989 265p

*Order number PB90-121161CDN,  
Price code PC A12/MF A02*

Sponsored by grant NSF-BNS85-20709. Sponsored by National Institutes of Health, Bethesda, MD., National Science Foundation, Washington, DC., National Inst. of Neurological and Communicative Disorders and Stroke, Bethesda, MD., and National Inst. of Child Health and Human Development, Bethesda, MD.

The writings are a collection of reports concerning child health and human development. The reports concentrate on human communication as it applies to hearing, speaking and reading development in addition to highlighting specific abnormalities such as dyslexia and deafness.

## Health Care

### **Health Care Assessment and Quality Assurance**

#### **Quality Assurance - Developmental Disabilities Final rept. 1 Oct 83-30 Sep 84**

*Indiana Univ.-Purdue Univ. at Indianapolis.  
School of Nursing.*

Perez, R. C.

Aug 85 47p

*Order number PB86-152329CDN,  
Price code PC A03/MF A01*

Sponsored by Bureau of Health Care Delivery and Assistance, Rockville, MD. Maternal and Child Health and Crippled Children's Services.

The report summarizes the progress to date on the Quality Assurance: Developmental Disabilities (QA:DD) Project conducted by the Department of Pediatrics, Family and Women's Health Nursing, Indiana University School of Nursing. It discusses the results, implications and plans for future studies. All objectives proposed were achieved: (1) Acceptable, essential outcome and process criteria for the care of developmentally disabled children and their families; (2) Tools were devised to audit charts and evaluate interview data; (3) Process was evolved to train raters. These objectives were achieved through the implementation of three distinct, but interrelated studies: the Cross Validation Study of the outcome standards, the Cross Validation Study of the process standards, and the Rater Reliability Study. The tools developed provide a basis for national standards for the care of these children and their families. The inclusion of both parents, nurses and administrators in the validation of process and outcome standards assures the delivery of essential health care of populations of developmentally disabled children.

## Health Delivery Plans, Projects, and Studies

### **MATCH II - A Merged Database for Health and Mental Retardation/Developmental Disabilities Final rept. 1 Oct 86-30 Sep 89**

*Ohio Dept. of Health, Columbus.*

Benford, M. S.

1989 12p

*Order number PB93-161974CDN, Price code PC A03/MF A01*

Sponsored by Maternal and Child Health Bureau, Rockville, MD.

The project sought to improve coordination and continuity of early intervention and health related services to infants and young children who have developmental disabilities or delays or who are at-risk. It developed a collaborative mechanism via computer linkage for referring, tracking, and evaluating these children.

### **Oregon Development Monitoring Project for High Risk Infants Final rept. 1 Jul 84-30 Jun 88**

*Oregon Health Sciences Univ., Eugene. Child Development and Rehabilitation Center.*

Nickel, R. E.

1988 40p

*Order number PB93-156693CDN, Price code PC A03/MF A01*

Sponsored by Maternal and Child Health Bureau, Rockville, MD.

The project addressed three areas of need in the early identification of infants with major handicaps. It aimed to make appropriate developmental screening available as close as possible to the infant's home community, to provide the necessary developmental screening training to local health and educational service providers, and to provide the regional coordination for the many agencies and professional involved.

## Health Services

### **Coordinated Community-Based Services Final rept. 1 Jul 84-30 Jun 88**

*Kentucky Dept. for Health Services, Frankfort. Div. of Maternal and Child Health.*

Nicol, P. K.

Jun 88 40p

*Order number PB93-152932CDN, Price code PC A03/MF A01*

Sponsored by Maternal and Child Health Bureau, Rockville, MD.

The principle aim of the project was to demonstrate a coordinated, community-based program model for the screening, evaluation, and treatment of children from birth to five years of age with developmental disabilities, children at risk for them, and for their families.

### **Developmentally Disabled Consumers and the Health Care System, Maine Health Service Area 1**

*Maine Health Systems Agency, Inc., Augusta.*

19 Jun 78 277p

*Order number HRP-0905645/9CDN, Price code PC A13/MF A01*

The project purpose was to provide information regarding availability, accessibility, and utilization of the general health care system by the developmentally disabled population and the general population. The project chose a survey of health service providers as one necessary component of the research effort. There was considerable concern that health professionals might have negative attitudes toward normalizing health care for the developmentally disabled population. This, and other questions concerning the relationship of the developmentally disabled consumer to the providers of health care, were the survey focus.

## Legislation and Regulations

### **Handy Reference to Developmental Disabilities - Definitions, Jargon and Acronyms Programs and Legislation**

*Department of Health and Human Services, Washington, DC; Temple Univ., Philadelphia, PA.*

Piccoli, M.

1984 19p

*Order number SHR-0011544CDN, Price code PC A02/MF A01*

Sponsored in part by Department of Health and Human Services, Washington, DC.

Developmental disability is defined and various conditions, including autism, cerebral palsy, epilepsy, and mental retardation are addressed. Some commonly used terms, such as accessibility, aftercare, advocacy, diagnostic services, early intervention, incompetency, and right to treatment, are explained. Acronyms such as ANSI (American National Standards Institute), CLA (Community Living Arrangement), and OT (Occupational Therapy) are spelled out. Various programs for the developmentally disabled are described, including respite care, foster care, and sheltered employment programs. Key legislation is considered, and several legal cases that have affected the rights of disabled individuals are examined (for instance, Wyatt versus Stickney, O'Connor versus Donaldson, and Halderman Versus Pennhurst).

### Library and Information Sciences

#### Operations and Planning

##### **Academic Library Workshop for Instructing Students with Learning Disabilities To Use CD-ROM Databases**

*San Jose/Evergreen Community Coll. District, CA.*  
Carlson, G.; Pontau, D. Z.

Apr 89 42p

*Order number ED-313 056CDN,*  
*Not available NTIS*

Some appended materials on colored paper may not reproduce clearly.

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This report discusses a workshop conducted by the library of San Jose State University to instruct eight students with learning disabilities (SLD) in the use of CD-ROM databases. The workshop contributors believed that CD-ROM databases could simplify research paper and homework assignments for such students. The 5-month workshop sought not only to entice these students into the library to receive tailored library instruction, but also to strengthen the bonds between the library and the campus learning disabilities staff. Because sequencing was a problem for this group, the workshop was broken into constituent parts, which incorporated the steps necessary to formulate, implement, view, and print out search results on the ERIC CD-ROM database from SilverPlatter. The accompanying instructional materials (e.g., handouts and overhead projections) were color-coded; this was particularly helpful to students with certain perceptual disorders for whom reading high contrast print materials (i.e., black and white) would be difficult. The workshop achieved its objectives of establishing better contact with both the target group and the learning disabilities support staff. It is suggested that this workshop could serve as a model for bibliographic instruction to other groups who require simple, systematic entry into the technology. Nine sections of colored handouts are appended, including a CD-ROM evaluation form. (16 references) (SD).

##### **Functional Illiteracy - What Public Libraries Can Do To Help People with Reading and Writing Problems. An Ideas Pamphlet**

*International Federation of Library Associations, The Hague (Netherlands).*

1989 28p

*Order number ED-328 270CDN,*  
*Not available NTIS*

Prepared by the International Federation of Library Associations (IFLA) Standing Committee for Public Libraries. Standing Committee for Public Libraries.

Available from ERIC Document Reproduction Service (Computer Microfilm International Corporation), 3900 Wheeler Ave., Alexandria, VA 22304-5110.

This pamphlet describes literacy programs currently in effect in Scandinavian countries and provides guidelines for the development of similar programs. Reasons for functional illiteracy in the industrialized world are discussed, and current and potential roles for public libraries in improving the situation are considered. Persons who are functionally illiterate with whom libraries can work are identified as unaccustomed readers, weak readers and writers, and the reading and writing handicapped, and it is posited that cooperation between libraries and specialists in the field and professional groups is a necessary prerequisite for achieving results. It is also pointed out that acceptance by the general public that functional illiteracy does not indicate a lack of intelligence will make it easier for weak readers and writers to seek assistance. Problems created by the small number of available easy-to-read materials in some of the Scandinavian languages and the perception that recorded books are only for the handicapped are also discussed. A number of Scandinavian projects and their results are then described, including Norway's local radio project and campaigns in the schools designed to stimulate children and adolescents to read more. Swedish literacy measures and projects are also described, as well as services that libraries can provide for dyslexic patrons and those with reading problems. The potential impact of information technology on public library users is also discussed. A brief review of central international measures and support systems for the functionally illiterate and suggestions for future activities conclude this report. (MAB).

#### Reference Materials

##### **European Science Notes. Volume 41, Number 3 Monthly rept.**

*Office of Naval Research, London (England).*

Fox, C. J.

Mar 87 65p

*Order number AD-A178 204/4CDN,*  
*Price code PC A04/MF A01*

European Science Notes is a monthly publication with brief articles on recent developments in European scientific research. Partial contents: Research in personality at the Rijksuniversiteit Groningen (Netherlands); Dyslexia and hormonal deficiency relations (Norway); Biotechnology in East Germany; Workshop on regulatory peptides in the brain and in the gastrointestinal tract; NATO workshop on the design, activation, and transformation of organometallics into common and exotic materials; Materials research for thick-film hybrid microelectronics in Poland; Meeting of the International Commission for the Scientific Exploration of the Mediterranean Sea; Meeting of semiconductor scientists held in Stockholm; Conference on superlattices, microstructures, and microdevices.

### Medicine and Biology

#### Clinical Medicine

##### **Neurodevelopmental Precursors of Learning Disability Final rept. 1 Sep 84- 28 Feb 87**

*Kennedy Inst., Baltimore, MD.*

Shapiro, B. K.; Palmer, F. B.; Antell, S.; Bilker, S.; Ross, A.

Jun 87 263p

*Order number PB88-173828CDN,*  
*Price code PC A12/MF A01*

Sponsored by Bureau of Health Care Delivery and Assistance, Rockville, MD. Maternal and Child Health and Crippled Children's Services.

The study sought to determine whether the neurodevelopmental substrate for learning disorders could be detected prior to academic underachievement. Prospectively collected data on language, motor, and primitive reflex development of infants was compared among those who experienced later academic disfunction and those who did not.

**Torch Infections - Diagnosis and Significance. (Latest citations from the Life Sciences Collection Database)**

National Technical Information Service, Springfield, VA; NERAC, Inc., Tolland, CT.

Sep 92 89 citations minimum

Order number PB92-860014CDN,  
Price code PC N01/MF N01

Prepared in cooperation with Cambridge Scientific Abstracts, Washington, DC. Sponsored in part by National Technical Information Service, Springfield, VA.

The bibliography contains citations concerning the importance of maternal and neonatal diagnosis of infection due to toxoplasma, rubella, and cytomegalovirus, and the significance of complications at birth. Diagnostic techniques reviewed include enzyme-linked immunofiltration, IgM immunocapture, amniocentesis, cordocentesis, DNA hybridization, immunofluorescence, enzyme-immunosorbent assays, and other methods. The citations explore significant complications such as neurologic defects, learning disabilities, eye diseases, retardation, hearing loss, hydranencephaly, bone lesions, cardiac disorders, and rare infant deaths. (Contains a minimum of 89 citations and includes a subject term index and title list.)

**Electrophysiology**

**Normative Developmental Equations for the EEG and their Sensitivity to Neurological and Psychiatric Disorders**

New York Univ. Medical Center, NY.

John, E. R.; Prichet, L. S.; Kline, N. S.

cFeb 88 7p

Order number AD-P006 077/2CDN,  
Price code PC A02/MF A01

This article from 'Electric and Magnetic Activity of the Central Nervous System: Research and Clinical Applications in Aerospace Medicine' Held in Trondheim, Norway on 25-29 May 1987, AD-A195 265, p3-1-3-7. Original contains color plates: All DTIC/NTIS reproductions will be in black and white.

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Although the electroencephalogram (EEG) is altered by many brain

dysfunctions, its clinical utility has been severely limited by reliance upon visual pattern recognition and subjective interpretation. Not only is the concordance poor between electroencephalographers and the test-retest reliability low, but many changes due to more subtle dysfunctions are simply not apparent by visual inspection. Accordingly, there has been increasing interest in developing methods for objective computer extraction of quantitative features with diagnostic utility from brain electrical activity. Our laboratories have been engaged in this endeavor since 1973. Our goal has been not only to replace subjective judgements by objective quantification, but to extend the utility of electrophysiological examinations beyond their traditional role in the detection of neurological disorders to the assessment of cognitive impairments and the evaluation of psychiatric patients. In many disorders, similar behavioral symptoms may be displayed for quite different underlying patients. In many disorders, similar behavioral symptoms may be displayed for quite different underlying reasons. For example, learning disabilities may be due to motivational or psychosocial factors, or to sensory deficits or brain dysfunctions. An elderly person may display problems with recent memory because of a sense of lack of purpose or because of organic changes caused by Alzheimer's disease or multiple infarcts. Depression may be a reaction to the disintegration of personal relationships or reflect imbalance in neurotransmitters. (js)

**Nutrition**

**University Affiliated Facilities Collaborative Study of Nutritional Status of Developmentally Delayed Children Final rept.**

Bureau of Community Health Services, Rockville, MD; Ohio State Univ., Columbus.

Kozlowski, Betty Whittle; Taylor, Martha Loeb; Baer, Marion Taylor; Blyler, Elaine M.; Trahms, Cristine

Sep 81 531p

Order number PB83-163899CDN,  
Price code PC A23/MF A01

Prepared in cooperation with Children's Hospital of Los Angeles, CA., Georgetown Univ., Washington, DC.,

and Washington Univ., Seattle.

The primary purpose of the study was to provide descriptive data concerning nutritional status of a sample of children who manifested significant delays in cognitive development. Applying the criteria described in the original proposal of the study, 40 percent of the children in the study were classified as 'small for age' and 14 percent were classified as 'normal size'; weight, height, or weight for height at or below the fifth percentile of NCHS reference data classified the child as 'small for age' child measures of all three of those parameters had to be between the twenty-fifth and seventy-fifth percentiles in order to classify as 'normal sized'. Comparisons of nutrient intake data obtained for the two groups revealed significantly higher intakes, both absolutely and relative to general population recommendations, among the 'normal sized' than among the 'small' children for energy and thirteen of eighteen nutrients evaluated; calculated intakes of calcium, iron, vitamin A, folate, and vitamin D and energy intake per centimeter of height did not differ between the two groups.

**Physiology**

**Coordinated Noninvasive Studies (CNS) Project. Phase 1 Final rept. 8 Sep 88- 7 Sep 91**

Air Force Office of Scientific Research, Bolling AFB, DC; Arizona Univ., Tucson.

Lauter, J. L.

Dec 91 86p

Order number AD-A247 159/7CDN,  
Price code PC A05/MF A01

The CNS Project combines several noninvasive methods for monitoring brain structure and function in a test battery. Phase One (1988-1991) focussed on neuroanatomical and neurophysiological correlates of behavioral ear advantages for two sets of complex sounds. Fifteen subjects neurologically normal according to conventional standards were tested with dichotic listening (2 measures), NM (2 measures), evoked potentials (2 measures), and qEEG (4 measures). One subject was also tested under similar conditions with PET. Results indicated: (1) Each individual had a distinct sidedness bias articulated in terms of a

combination of anatomical and physiological variables, (2) These individual patterns cut across conventional categories such as gender and handedness, (3) In some of the subjects, these CNS profiles comprised internally consistent patterns of asymmetries linking subcortical physiology, cortical anatomy and cortical physiology, (4) In others, departures from such consistency signalled evidence of a variety of subtle neuropathologies, such as stuttering, mild learning disorder, central auditory dysfunction, or a history of hyperactivity and/or substance abuse.

### **Early Intervention Collaborative Study - Phase One Final rept. 1 Jan 86-30 Jun 89**

Massachusetts Univ. Medical School, Worcester.  
Dept. of Pediatrics.

Shonkoff, J. P.; Hauser-Cram, P.; Krauss, M. W.  
Nov 89 298p

Order number PB92-136217CDN,  
Price code PC A13/MF A03

Sponsored by Maternal and Child Health Bureau, Rockville, MD.

The study was designed to analyze how child, family, and program characteristics relate to child and family outcome for three target groups currently served by publicly supported early intervention programs in Massachusetts and New Hampshire. The study included 180 children under 24 months of age with Down syndrome, motor impairment/cerebral palsy, or developmental delay of unknown etiology.

## **Psychiatry**

### **Research on Children and Adolescents with Mental, Behavioral, and Developmental Disorders - Report of a Study**

Institute of Medicine, Washington, DC.

1989 242p

Order number PB90-111162CDN,  
Price code PC A11/MF A01

Sponsored by National Inst. of Mental Health, Rockville, MD.

One-quarter of the U.S. population is under age 18, and at least 12% of these children have a diagnosable mental illness. The report focuses on those 7.5 million children and on the field of

child mental health, which examines the emotional, behavioral, and developmental disorders of this age group. It documents the progress being made in understanding, preventing, and treating such disorders, highlights some of the many promising opportunities for future research, and delineates critical resource requirements for advancing the field.

## **Public Health and Industrial Medicine**

### **Family Based Education Centers. Final Report 1 Dec 84-31 Aug 89**

Kamehameha Schools, Honolulu, HI.

Roberts, R. N.

1989 54p

Order number PB93-147023CDN,  
Price code PC A04/MF A01

Sponsored by Maternal and Child Health Bureau, Rockville, MD.

The goal of the project was to develop a model service system for children of Hawaiian ancestry, who are disproportionately at risk for health, social, and academic handicaps. Activities included conducting an extensive assessment of community needs and developing ongoing ties with institutions of higher learning in the state. Community participation and ownership of the program were seen as critical components.

### **Kona Child Development Program Final rept. 1 Oct 78-30 Sep 83**

Hawaii State Dept. of Health, Kealahou. Kona Child Development Program.

Mayfield, S. A.

Sep 84 33p

Order number PB93-196921CDN,  
Price code PC A03/MF A01

Sponsored by Maternal and Child Health Bureau, Rockville, MD.

The purpose of the program was to provide an integrated continuum of health and educational services to developmentally disabled children, from birth through age five years, who lived in rural areas of west Hawaii. The grant originally proposed that the program should provide a model which might be used as a basis for acquiring state support for these services in rural Hawaii.

### **Methodological Issues in Controlled Studies on Effects of Prenatal Exposure to Drug Abuse**

National Inst. on Drug Abuse, Rockville, MD.

Kilbey, M. M.; Asghar, K.

1991 382p

Order number PB92-146216CDN,  
Price code PC A17/MF A03

Also available from Supt. of Docs. Presented at a technical review on 'Methodological Issues in Controlled Studies on Effects of Prenatal Exposure to Drugs of Abuse', Richmond, VA., June 8-9, 1990.

The document presents the proceedings of the first NIDA technical review related to the conduct of controlled studies on the effects of prenatal exposure to drugs of abuse. Sessions were as follows: Detection and Quantification of Prenatal Drug Exposure in Infants; Assessment of Pregnancy Outcome; Assessment of Status of the Newborn; Measurement of Drug-Induced Physical and Behavioral Delays and/or Abnormalities: A General Framework; Measurement of Drug-Induced Physical and Behavioral Delays and/or Abnormalities: (A) Physiology and (B) Neuroendocrinology; Measurement of Drug-induced Physical and Behavioral Delays and/or Abnormalities: (C) Learning and Cognition and (D) Social Bonding/Emotional and Development; and Tracking Drug Effects Over the Lifespan.

### **Test and Evaluation of the 2.4-Micron Photorefractor Ocular Screening System**

National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.

Richardson, J. R.

Feb 85 42p

Order number N85-26115/4CDN,  
Price code PC A03/MF A01

An improved 2.4-m photorefractor ocular screening system was tested and evaluated. The photorefractor system works on the principal of obtaining a colored photograph of both human eyes; and, by analysis of the retinal reflex images, certain ocular defects can be detected such a refractive error, strabismus, and lens obstructions. The 2.4-m photorefractory system uses a 35-mm camera with a telephoto lens and an electronic flash attachment. Retinal

reflex images obtained from the new 2.4-m system are significantly improved over earlier systems in image quality. Other features were also improved, notably portability and reduction in mass. A total of 706 school age children were photorefracted, 211 learning disabled and 495 middle school students. The total students having abnormal retinal reflexes were 156 or 22 percent, and 133 or 85 percent of the abnormal had refractive error indicated. Ophthalmological examination was performed on 60 of these students and refractive error was verified in 57 or 95 percent of those examined. The new 2.4-m system has a NASA patent pending and is authorized by the FDA. It provides a reliable means of rapidly screening the eyes of children and young adults for vision problems. It is especially useful for infants and other non-communicative children who cannot be screened by the more conventional methods such as the familiar E chart.

## Toxicology

### **Delay-Dependent Impairment of Reversal Learning in Rats Treated with Trimethyltin Journal article**

*Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.*

Bushnell, P. J.

c1990 17p

*Order number PB91-171793CDN, Price code PC A03/MF A01*

Pub. in Behavioral and Neural Biology, v54 p75-89 Apr 90.

Portions of text were presented at the Annual Meeting, Society of Toxicology, Dallas, TX., February 17, 1988 and Behavioral Toxicology Society, Savannah, GA., May 17, 1988.

Recent theories of hippocampal function focus on its role in the formation of associations in the temporal domain. A reversal learning paradigm based on leverpress automaintenance was developed to vary the CS-UCS relationship along two independent dimensions, one temporal and one not: CS+-UCS delay and the probability of reinforcement (P(RFT)) following the CS+. Eight male hooded Long-Evans rats were trained to reverse the automaintained discriminations repeatedly, until stable reversal

performance was achieved. The neurotoxicant trimethyltin (TMT) was used to induce lesions in the CNS, including the CA3-4 region of Ammon's Horn in dorsal hippocampus. Following iv injection of 7 mg/kg TMT to half the rats, reversal performance was assessed under varying conditions of delay and P(RFT). After recovery from the acute effects of TMT (1-2 weeks), treated rats reversed normally when no delay separated the CS+ and UCS; with delays of 2 to 4 sec, they reversed less completely within a session than did controls. The degree of behavioral impairment correlated significantly with hippocampal damage only at nonzero CS+-UCS delays.

### **Learning and Memory Deficits in Rats Following Exposure to 3,3'-Iminodipropionitrile Journal article**

*NSI Technology Services Corp., Research Triangle Park, NC.*

Peele, D. B.; Allison, S. D.; Crofton, K. M.

c1990 14p

*Order number PB91-145078CDN, Price code PC A03/MF A01*

Pub. in Toxicology and Applied Pharmacology, v105 n2 p321-332 Sep 90.

Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.

The effects on learning and memory produced by beta, beta prime-iminodipropionitrile (IDPN) were examined in rats 4 weeks after dosing. IDPN (600 mg/kg) prevented acquisition of an olfactory discrimination task and disrupted performance of passive avoidance conditioning in separate groups of animals. The disruptive effects on passive avoidance conditioning were dosage dependent. Rats from both control and treated groups were then tested using a standard hot-plate test. The results suggest that treatment with IDPN did not produce the observed effects on learning and memory by altering sensitivity to painful, external stimuli. In summary, administration of IDPN is capable of producing profound and long lasting disruption of learning and memory in rats. (Copyright (c) 1990 by Academic Press, Inc.)

### **Neonatal Exposure to Trimethyltin Disrupts Spatial Delayed Alternation Learning in Prewanling Rats Journal article**

*NSI Technologies, Inc., Research Triangle Park, NC; Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.*

Stanton, M. E.; Jensen, K. F.; Pickens, C. V.

c1991 8p

*Order number PB92-124718CDN, Price code PC A02/MF A01*

Pub. in Neurotoxicology and Teratology, v13 p525-530 Oct 91. Prepared in cooperation with NSI Technologies, Inc., Research Triangle Park, NC.

Trimethyltin is an organotin compound that produces potent neurotoxicity in both adult and developing animals. The limbic system is a primary CNS target site for this toxicity and a prominent behavioral effect of TMT is disruption of learning and memory. Impairment of cognitive development has also been suggested by studies showing that rats neonatally exposed to TMT cannot perform spatial working memory tasks during adulthood. However, the question of how early in ontogeny such deficits can be detected has not been addressed. The present study examined the question with a T-maze delayed alternation learning paradigm. Long-Evans rat pups, injected i.p. on postnatal day 10 (PND10) with 6 mg/kg TMT and tested on PND18, were unable to learn delayed alternation in the manner shown by vehicle control pups. However, TMT- and vehicle-treated groups were both able to learn a simple position discrimination. These findings indicate a selective impairment of spatial working memory by neonatal TMT exposure and show that the impairment can be demonstrated during the preweanling period in the rat.

### **Neurotoxicology in Regulation and Risk Assessment Journal article**

*Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.*

Reiter, L. W.

1987 17p

*Order number PB88-165923CDN,  
Price code PC A03/MF A01*

Pub. in *Developmental Pharmacology and Therapeutics*, v10 p354-368 1987.

The paper is to be published in the proceedings of a conference on learning disabilities. It summarizes the need for neurotoxicology data in risk assessment, the regulatory agencies which have authority to require toxicity testing, the overall process of risk assessment and the proper role of neurotoxicology in the risk assessment process. It also briefly discusses the EPA/OTS guidelines for neurotoxicity testing.

### **Spatial Learning Deficits Are Not Solely Due to Cholinergic Deficits Following Medial Septal Lesions with Colchicine Journal article**

*National Inst. of Environmental Health Sciences, Research Triangle Park, NC. Lab. of Molecular and Integrative Neuroscience.*

Barone, S.; Nanry, K. P.; Mundy, W. R.; McGinty, J. F.; Tilson, H. A.

c1991 12p

*Order number PB92-206317CDN,  
Price code PC A03/MF A01*

Pub. in *Psychobiology*, v19 n1 p41-50 Mar 91. Prepared in cooperation with East Carolina Univ. School of Medicine, Greenville, NC. Sponsored by Health Effects Research Lab., Research Triangle Park, NC. Neurotoxicology Div.

Colchicine was infused bilaterally into the cerebrolateral ventricles (3.75 micrograms/side) or directly into the medial septum (5 micrograms) of adult, male Fischer-344 rats (n=48), and effects on behavior and cholinergic markers were determined. Rats receiving intracerebroventricular (ICV) administration of colchicine were hyperaggressive during the first week

after administration and were hyperactive when tested during 60-min sessions at weekly intervals during the first 3 weeks after colchicine treatment. ICV colchicine also interfered with the acquisition of a spatial task in the water maze. Rats receiving colchicine directly into the medial septum were also aggressive and hyperactive, but were not impaired in the acquisition of the water-maze task. It was subsequently found that direct administration and ICV administration of colchicine both decreased the number of choline acetyltransferase (ChAT) immunoreactive cells in the medial septum by at least 50% of vehicle-treated rats and decreased ChAT enzyme activity in both the right and the left hippocampus to about 50% of control levels. The results of these experiments do not support the generally accepted hypothesis that spatial learning deficits seen in animals with medial septum lesions are solely due to a lesion-associated cholinergic deficit in the hippocampus.

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